

WHAT IS CLAIMED IS:

1 ¹⁵⁶ 1. A gateway configured to allow multiple nodes on a computer network to ✓
2 communicate using one or more data protocols, wherein said one or more data protocols are
3 transmitted over a network medium using a medium protocol, the gateway further providing
4 an application programming interface to communicate with said multiple nodes, said gateway
5 comprising:

6 an internal node database comprising information about nodes on a network;

7 a software module configured to provide an active mode and a standby mode,
8 said active mode configured to maintain said internal node database and to provide
9 access to said node database, said standby mode configured to maintain said internal
10 node database as a mirror copy of an external node database.

1 2. The gateway of Claim 1, said internal node database further comprising rules
2 that specify actions to be taken upon a state change of a client node.

1 3. The gateway of Claim 2, wherein said rules are simple rules.

1 4. The gateway of Claim 2, wherein said rules are complex rules.

1 5. The gateway of Claim 2, further comprising a rules engine configured to
2 interpret said rules.

1 6. The gateway of Claim 2, further comprising shims, said shims configured to
2 translate rules into a rule definition language.

1 7. The gateway of Claim 2, wherein said state change comprises a change in an
2 instance variable of said client node.

1 8. The gateway of Claim 1, wherein said internal node database is updated by
2 issuing ping requests.

1 9. The gateway of Claim 1, wherein said software module is configured to
2 transition to said active mode when an unacknowledged client request is detected.

1 10. The gateway of Claim 1, further configured to tunnel a first protocol through a
2 second protocol.

1 11. The gateway of Claim 10, wherein said medium is a power line and said
2 medium protocol is a power line protocol.

1 12. The gateway of Claim 1, wherein said medium is a power line and said
2 medium protocol is a PLX protocol.

1 13. The gateway of Claim 7 further comprising an event handler configured to
2 notify a user application when a change occurs in an instance variable of said client node.

1 14. The gateway of Claim 1, further comprising an object-oriented application
2 programming interface.

1 15. The gateway of Claim 14, further comprising an internet browser configured to
2 provide a user interface to information in said internal node database.

1 16. The gateway of Claim 15, wherein said user interface is configured to allow a
2 user to control nodes on a power line network.

1 17. A computer network comprising:
2 a power line network medium; and ✓
3 gateway means for routing raw data information from said power line network
4 medium to user applications through the use of dispatch control blocks.

1 18. A gateway comprising:
2 a node database; ✓
3 dispatcher means for creating and interpreting dispatch control blocks;
4 device driver means for controlling a network interface adapter; and
5 shim means for adapting said device control blocks to said device driver
6 means.

1 19. A method for using a desired protocol to communicate between nodes on a
2 network, said method comprising: ✓

3 creating a node database containing information about said nodes;
4 designating an active gateway node to maintain said node database, said active
5 gateway node providing one or more access methods to access said node database; and
6 mirroring said node database in one or more standby server nodes.

1 20. The method of Claim 19 further comprising interpreting and executing rules
2 that specify actions to be taken when a state change occurs in a client node.

1 21. The method of Claim 20, wherein said rules are interpreted by a rules engine.

1 22. The method of Claim 20, further comprising the step of generating event
2 notifications when said state change occurs.

1 23. The method of Claim 22, wherein said notifications are provided to a
2 dispatcher.

1 24. The method of Claim 20, further comprising the step of translating received
2 data into a rule definition language.

1 25. The method of Claim 20, wherein said state change comprises a change in an
2 instance variable of said client node.

1 26. The method of Claim 19, further comprising the step of issuing ping requests
2 and listening for responses to said ping requests, said responses used to update said node
3 database.

1 27. The method of Claim 19, further comprising the step of activating one of said
2 standby server nodes after said active server becomes inactive.

1 28. The method of Claim 19, further comprising the step of encapsulating raw
2 packets in a first protocol into wrapper packets in said desired protocol and tunneling said raw
3 packets through said desired protocol.

1 29. The method of Claim 19, wherein said medium is a power line and said
2 medium protocol is a power line protocol.

1 30. The method of Claim 19, wherein said medium is a power line and said
2 medium protocol is a PLX protocol.

1 31. The method of Claim 19, further comprising the step notifying a user
2 application when a change occurs in an instance variable of said client node.

1 32. The method of Claim 19, further comprising the step of using an internet
2 browser to view information in said node database.

1 33. The method of Claim 19, further comprising the step of using an internet
2 browser to control nodes on a power line network.